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Research Paper

Adenoid Cystic Carcinoma Lung and Its Mimicker

Dr. Soumya T R[1], Dr. Sankar Sundaram[2], Dr. Lekshmidevi[3]
1-Postgraduate student
2- Professor and Head of the Department
3- Associate Professor
Department of Pathology, Government Medical College, Kottayam
Corresponding Author: Dr. Soumya T R

ABSTRACT
Adenoid cystic carcinoma is a malignant neoplasm that usually orginates from salivary glands , but is also reported in breast, skin, upper digestive tract and lungs. Here we report a case of adenoid cystic carcinoma lungs and another case which is morphologically resembling adenoid cystic carcinoma which was later found out as a metastasis from carcinoma breast to lung. Both cases are reported in fibre optic bronchoscopy biopsy specimen .
***KEY WORDS**: Adenoid cystic carcinoma, lung, breast, salivary gland type tumors*

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I. INTRODUCTION

Primary adenoid cystic carcinoma lung accounts for 0.04-0.2% of all primary pulmonary tumors(1),which is a low grade malignant neoplasm. It is a slow growing neoplasm usually arise in the proximal tracheobronchial tree.

II. CASE REPORT

First case is that of a 77 year old man presented to the pulmonary out patient department with fever, cough, breathing difficulty and chest pain for a duration of one month. He had a history of adrenal insufficiency and was on treatment. On examination, he had clubbing and bilateral pedal edema and crepetitions were heard on right side on auscultation.

Investigations showed a total count of 12,600 with an elevated ESR(98 mm at 1st hr). Liver function tests and renal function tests were within normal limits.

CECT Thorax

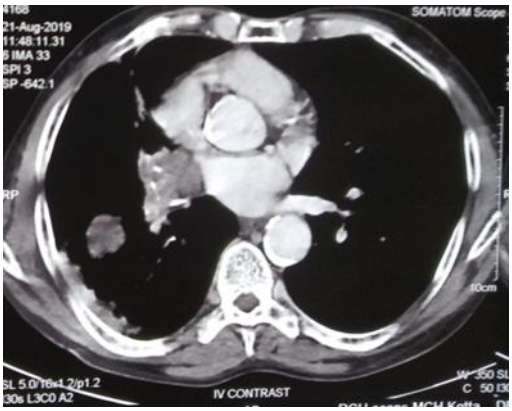


Figure 1

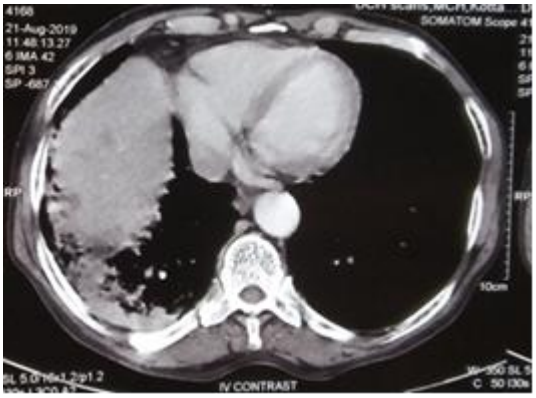


Figure 2

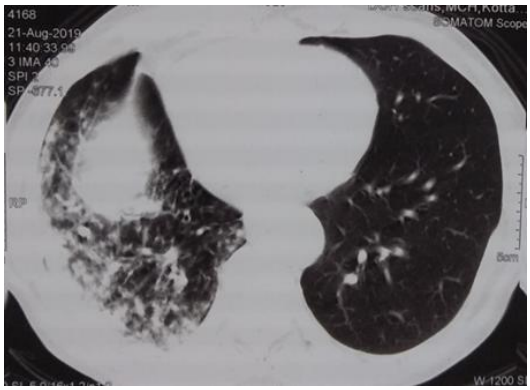


Figure 3

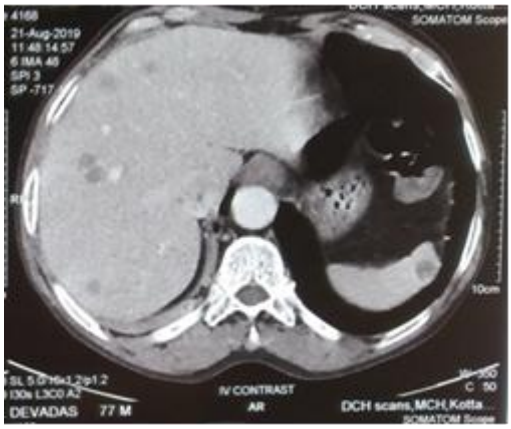


Figure 4

CECT Thorax(fig 1,2,3.4) showed an irregular moderately enhancing soft tissue attenuation lesion 3.4x3.0x3.2 cm with coarse calcification in (R) hilar region infiltrating superior branch of pulmonary vein ,pulmonary artery and lower lobe bronchus Inferiorly abutting pulmonary vein , left atrium and right atrium. Features suggestive of hilar mass with lung , hepatic and splenic metastasis. Lymphagiosis carcinomatosa in right lower lobe.

Fibre Optic Bronchoscopy

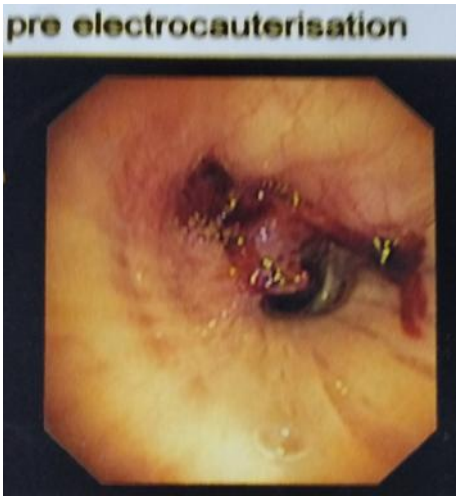
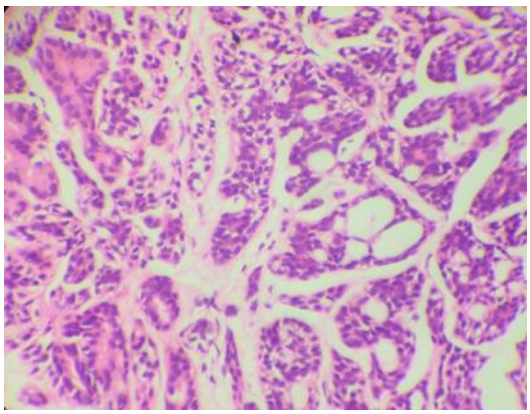


Figure 5

FOB biopsy specimen microscopy



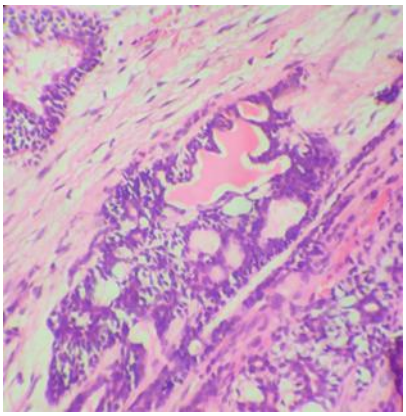


Figure 6 H&E 400X

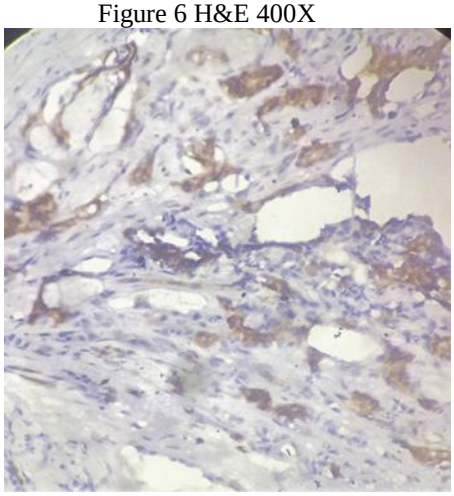


Figure 7 H&E 400X

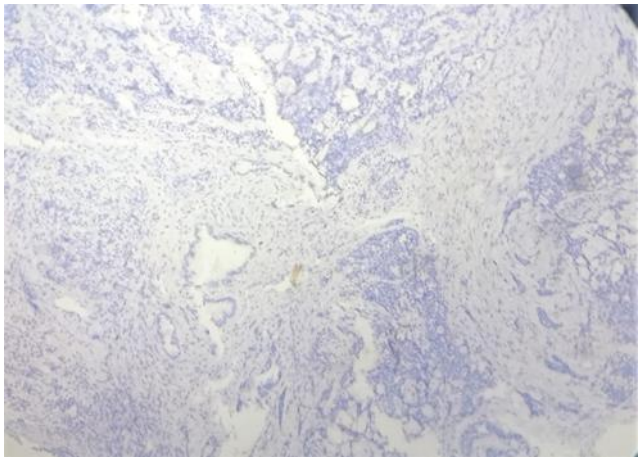


Figure 8 IHC C-kit positive

Figure 9 IHC GFAP negative

Microscopy(fig 6,7) shows fragments of a neoplasm composed of cells arranged in tubules and in cribriform pattern. Individual cells are small sized cells with scanty cytoplasm and hyperchromatic nuclei. Immunohistochemistry was done and was c-kit positive and GFAP negative. (fig 8,9)It was diagnosed as adenoid cystic carcinoma lung.

Second case was that of a 60 year old lady presented with a swelling in the breast for a duration of 6 months. Trucut biopsy breast showed invasive carcinoma breast.

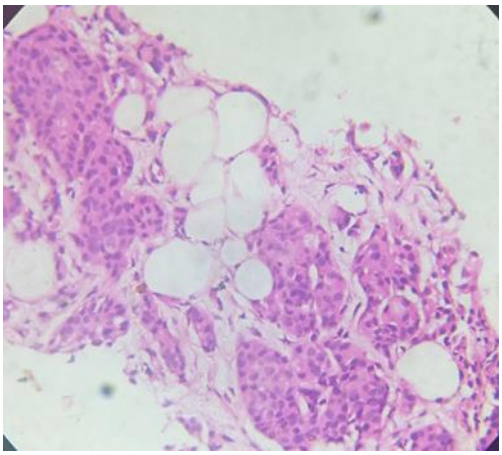


Fig 10 H&E 400X

On further evaluation, CT chest was taken which showed a mass in the perihilar region of right middle lobe of lung causing cut off of left segmental bronchus of right middle lobe with central necrotic areas.

Fibreoptic biopsy from the lesion was taken.

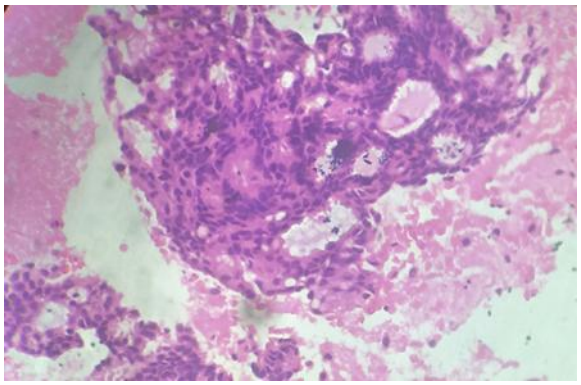


Fig 11 H&E 400X

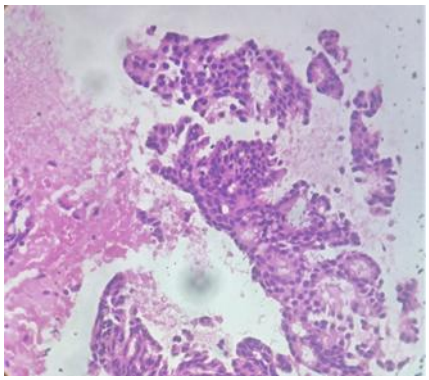


Fig 12 H&E 400X

Microscopy (fig 11&12) showed fragments of a neoplasm composed of cells arranged in tubules and in cribriform pattern. Individual cells are small sized cells with scanty cytoplasm and hyperchromatic nuclei. Eosinophilic basement membrane like material seen. It was diagnosed as adenoid cystic carcinoma. Immunohistochemistry was done and it is found to be GCDFP and ER positive and c-kit negative.(Fig 13,14,15)

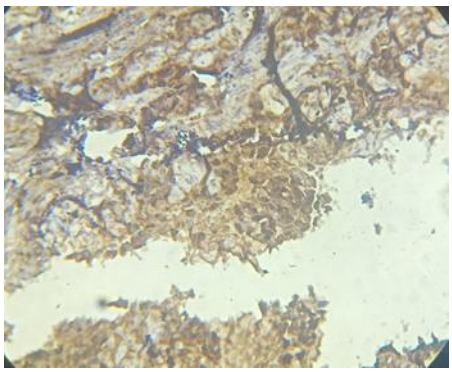


Fig 13 IHC GCDFP positive 400X

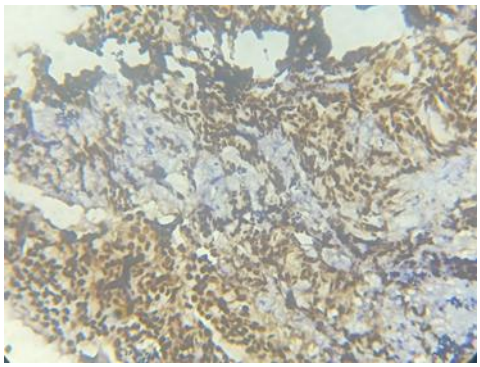


Fig 14 IHC ER positive 400X

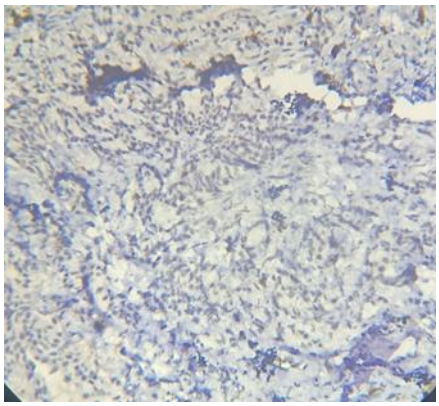


Fig 15 IHC c-kit negative 400X

Correlating with clinical history, imaging studies and immunohistochemical (IHC) markers, it was diagnosed as carcinoma possibly metastasis from breast.

III. DISCUSSION

Primary adenoid cystic carcinoma lung is a rare salivary gland type tumor which is considered as slow growing low grade malignant neoplasm. Earlier this was termed as bronchial adenoma and now it is considered as malignant. Average age of presentation is 50 years and usually arises as an endobronchial tumor, probably arises from submucosal bronchial glands. It usually grows in an infiltrative pattern with perineural invasion is common, which makes the tumor difficult to resect. Local recurrence is common. Peripheral lesions are often asymptomatic whereas central lesions presents with cough, dyspnea, hemoptysis etc. Grossly appears as large centally located polypoidal intrabronchial mass. Cut section appears grey white and homogeneous in appearance. Microscopically shows tubular, cribriform or solid pattern with individual cells are monotonous polygonal and basaloid. In majority of the cases, there is no mitosis, necrosis or nuclear pleomorphism. Tumor behaves in an indolent fashion with local reccurence , often multiple may occur over 10 to 15 years period following resection. Distant metastasis may eventually occur. Poor prognosis relate to the stage of the tumor at diagnosis, positive margins at surgery and a solid growth pattern.

IV. CONCLUSION

Adenoid cystic carcinoma of the lung although it is rare is an important type of lung cancer encountered, It is characterized by long clinical course, with slow growth . Distant metastasis is uncommon although in some studies incidence of metastasis was upto 40%.

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